Journal of Food Health and Bioenvironmental Science
Journal homepage : http://jfhb.dusit.ac.th/

Risk Management in Thai Nursing Homes During COVID-19: Insights from Nurse Entrepreneurs

Chaowarit Ngernthaisong[a], Areewan Oumtanee[a], Chawapon Sarnkhaowkhom[b] & Boonyada Wongpimoln[c]*

[a] *Faculty of Nursing, Chulalongkorn University, Bangkok, 10330 Thailand*
[b] *Faculty of Public Health, Mahidol University, Bangkok, 10400 Thailand*
[c] *Faculty of Nursing, Roi Et Rajabhat University, Roi Et, 45120 Thailand*

Article info

Article history:
Received : 18 January 2025
Revised : 13 March 2025
Accepted : 10 April 2025

Keywords:
COVID-19, Nursing home, Nurse entrepreneur, Older adults, Risk management

Abstract

Effective risk management in nursing homes (NHs) during the COVID-19 pandemic has been critical to safeguarding resident health, maintaining nursing care quality, and ensuring business sustainability. For nurse entrepreneurs, understanding risk management practices during such crises offers valuable insights for future preparedness. This study explores the experiences of Thai nurse entrepreneurs in managing risks within their NHs during the COVID-19 pandemic. A descriptive phenomenological approach was employed, utilizing in-depth interviews conducted via online platforms with ten NH nurse entrepreneurs. Data collection methods included semi-structured interviews, observation, and audio recording. Participants were recruited through purposive and snowball sampling, and data were analyzed using Colaizzi's phenomenological method. Trustworthiness was established through triangulation, member checking, and collaborative work with the research team. Three major themes emerged: (1) Managing COVID-19 risks, including the development of staff policies, care guidelines, daily monitoring, and environmental sanitization; (2) Restoring essential supplies, such as food and medical equipment; and (3) Balancing income and expenditure, through strategies to maintain resident numbers and control staffing costs. Despite significant challenges, nurse entrepreneurs demonstrated resilience by implementing comprehensive strategies to protect residents, manage resources efficiently, and sustain operations. These findings offer valuable implications for nursing home management and pandemic preparedness in future public health crises.

Introduction

Nursing Homes (NHs) are legally admitted care centers providing nursing care services, health promotion, and rehabilitation for older adults and dependent persons by official care providers, where classified as the majority of elder care services in Thailand (Royal Thai Government Gazette, 2020). Thai elder care services are categorized into daycare services, residential homes, and NHs, with 912 NHs officially registered under the

* Corresponding Author
e-mail: boonyada@reru.ac.th

Department of Health Support Service, Ministry of Public Health (Department of Health Service Support, 2024).

Over 50% of nursing home (NH) entrepreneurs are nurses, driven by the country's shift toward an aging society. Nurse entrepreneurs play a critical role in managing both healthcare and business aspects (Aydogdu, 2023). They must prioritize care quality and standards as a key management concern by focusing on residents' holistic well-being, including minimizing potential risks, enhancing safety protocols, and improving resident satisfaction levels for achieving the desired quality of care (Ngernthaisong et al., 2024). To ensure quality of care, facilities, meals, care services, rehabilitation, and risk management protocols must meet their NH's specific standards. To maintain quality, these entrepreneurs conduct daily rounds and closely monitor staff performance. Feedback from residents and their families, collected through conversations or surveys, is essential for service improvement. When complaints arise, nurse entrepreneurs respond promptly to resolve issues, whether during normal operations or crises (Ngernthaisong & Oumtanee, 2017), particularly managing the risks during the COVID-19 pandemic.

Coronavirus disease 2019 (COVID-19) was a global pandemic that spread rapidly worldwide, causing significant economic, social, and health crises (United Nations Development Programme, 2021). Globally, over 7,089,979 COVID-19-related deaths have been reported, with the majority occurring among individuals aged 65 years and older, particularly those with underlying conditions such as diabetes, hypertension, obesity, and heart disease (World Health Organization, 2025). Similarly, the United States (US) Centers for Disease Control and Prevention (CDC) reported that 24.3% of COVID-19-related deaths in the US occurred among individuals over 65 years of age, especially those residing in high-risk, crowded settings such as nursing homes (NHs) and long-term care facilities (Department of Disease Control, 2021). Older adults with chronic illnesses remain particularly vulnerable to infection and mortality, especially those living in NHs (Department of Older Persons, 2020).

During the COVID-19 pandemic, older adults in NHs were at the greatest risk for morbidity and mortality (Dyer et al., 2022; Schneider et al., 2023). Consequently, the COVID-19 mortality rate among older adults was higher than that of other age groups (Bonanad et al., 2020). To protect this at-risk population, many countries implemented preventive measures in NHs, including bans on social gatherings, restrictions on visitor access, limitations on group activities, and prohibitions on communal dining (Schneider et al., 2023). Many older adults continued to reside in NHs, particularly those who were bed-bound and had underlying health conditions requiring advanced care, such as pressure sore management, nasogastric tube feeding, medication administration, and mental health support. The number of older adults requiring long-term care services, especially NHs, increased significantly during this period (Heiks & Sabine, 2022; Li et al., 2024).

As of November 5, 2021, Thailand reported 1,951,572 confirmed COVID-19 cases and 19,542 deaths, with 43.67% of fatalities among those over 60 years old (Department of Disease Control, 2021). To curb the spread, the government ordered NHs closures, which, along with lockdown measures, contributed to rising mortality rates (Ngamprasertchai et al., 2022). These policies significantly impacted residents, staff, and NH entrepreneurs. Beyond COVID-19, Thai NHs continue to face challenges such as rapid population aging, limited healthcare resources (Glinskaya et al., 2021), cultural attitudes toward institutional care (Srithumsuk et al., 2021), and misalignment between government policies and local practices (Siriwan, 2024). Without a clear guideline or experiences sharing in managing risks in NHs, therefore, would be harmful to residents and business survival.

As mentioned above, NH nurse entrepreneurs played a vital role in managing COVID-19 infection risks and business survival during the pandemic. Government policies like curfews, social distancing, and semi-lockdowns led to temporary closures, bankruptcies, unpaid staff leave, and financial struggles for families needing elderly care. However, the guidelines or experience sharing in managing risks during the pandemic are not determined. Thus, this study explores the experiences of Thai nurse entrepreneurs in balancing infection control and business sustainability, providing lessons for future NHs and elderly care service management.

Materials and methods

1. Study design

This qualitative study used a phenomenological descriptive design, which was ideal for exploring the experiences of individuals within their context by

considering nurse entrepreneurs as human beings who are living naturally (Husserl, 2013; Polit & Beck, 2017). So, this method is appropriate to describe the experiences of NH nurse entrepreneurs in managing the risks of infection and business during the COVID-19 pandemic.

2. Population and sample

A total of ten NH nurse entrepreneurs were selected as participants, a sample size deemed sufficient to achieve enriched and saturated data (Fusch & Ness, 2015). The eligibility criteria included: (1) being a registered nurse with an active license; (2) ownership of a nursing home (NH) that remained operational during the COVID-19 pandemic; (3) a minimum of 3 years of NH operational experience; and (4) accreditation of the NH by either the Department of Health Support Service, Ministry of Public Health, or the Department of Business Development, Ministry of Commerce. Participants were initially contacted by telephone to verify eligibility and to inform them about the study. Upon confirmation of willingness and eligibility, interviews were scheduled based on participants' convenience. Purposive sampling was employed to select participants who met all inclusion criteria. Subsequently, snowball sampling was utilized, wherein eligible participants recommended additional individuals who met the study criteria (Palinkas et al., 2015).

3. Measurement and data collection

Data were collected ethically through in-depth interviews conducted via telephone or Zoom meetings, depending on participant preference. Although remote interviews offered convenience and reduced the risk of infection, they limited opportunities for field observation. Each interview lasted approximately 45–60 min and was audio recorded. Additionally, observational data from NH websites were collected to complement interview findings. Data collection continued until saturation was reached, such as when no new information emerged, replication of the study was deemed possible, and further coding was no longer feasible (Fusch & Ness, 2015). Two participants were interviewed twice; the initial interviews served as a pilot study to refine data collection procedures. The remaining eight participants were interviewed once. Data collection occurred between May 30, 2021, and October 31, 2021. Semi-structured interview questions were employed, such as: "What challenges or risks did your NH face during COVID-19?", "How did you manage your NH during the pandemic?", "What strategies were used to ensure resident safety?", and "How did you sustain your NH business throughout the COVID-19 pandemic?" Additional probing questions were asked based on participants' responses, such as: "How did you plan and prepare your NH to prevent COVID-19 infection?" and "How did you manage your organization during the pandemic?"

4. Data analysis

Data were analyzed using Colaizzi's (1978) method as outlined by Wirihana et al. (2018), enabling the identification of emergent themes and sub-themes describing the experiences of NH nurse entrepreneurs in managing infection risks and business continuity during the COVID-19 pandemic. The analysis followed 7 steps:

1) Reading all transcribed interviews multiple times to gain an overall understanding.

2) Extracting significant statements related to the phenomenon under investigation.

3) Formulating meanings from these statements and categorizing them into preliminary groups.

4) Organizing the formulated meanings into clusters of themes through repeated review and interpretation.

5) Developing an exhaustive description of the phenomenon based on the clustered themes.

6) Formulating the fundamental structure of the phenomenon into a concise, unequivocal statement.

7) Conducting member checking by returning findings to participants for validation, thereby enhancing the credibility of the results.

5. Trustworthiness/rigor

Credibility and dependability were established through triangulation, member checking, and collaborative work with the research team (Lincoln & Guba, 1985). Triangulation involved collecting data from multiple sources, including NH websites, Facebook pages, and COVID-19 prevention guidelines issued by the Ministry of Public Health, Thailand. Following transcription, each participant's transcript was sent via Line or email for confirmation and verification of accuracy. Collaborative analysis among the research team minimized personal bias and enhanced the rigor and validity of the findings through critical discussion and consensus building.

6. Ethical approval

This study was approved by the Roi Et Rajabhat University Ethics Committee for Human Research (Approval No. 014/2564, dated May 12, 2021). Participants were fully informed about the study objectives and procedures, and informed consent was obtained prior to data collection. Participants' confidentiality and voluntary participation were strictly maintained throughout the research process.

Table 1 Participants' demographic summary

Participant	Age (Years)	Sex	Educational level	Marital status	Number of residents (Persons)	Number of staff (Persons)	Duration of operation (Years)
P1	43	Female	Master Degree	Married	42	15	8
P2	48	Female	Master Degree	Divorced	15	6	7
P3	67	Female	Doctoral Degree	Married	25	15	12
P4	34	Female	Bachelor Degree	Single	20	5	4
P5	52	Female	Master Degree	Married	15	6	5
P6	46	Female	Master Degree	Married	40	16	4
P7	48	Female	Bachelor Degree	Married	50	18	18
P8	47	Female	Bachelor Degree	Married	29	20	12
P9	46	Female	Bachelor Degree	Married	18	10	13
P10	38	Female	Bachelor Degree	Single	12	8	4

Results and discussion

1. Characteristics of participants

A total of ten owners of NHs participated in this study. All were female, with an average age of 46.9. The majority of them had graduated with a bachelor degree. The participants had an average resident number and staff number in person of 26.6. and 11.9, respectively. The average duration of operation in years was about 8.7 years (See Table 1).

2. Analytical finding

The data analysis yielded 3 major themes and 8 sub-themes that captured the challenges of managing risk in NHs during COVID-19: (1) Managing Risk of COVID-19 Pandemic in NHs, (2) Restoring Essential Supplies, and (3) Balancing Income vs. Expenditure. The results showed how nurse entrepreneurs manage their healthcare business, especially the NHs. It is very challenging for them to survive throughout the COVID-19 effectively and efficiently. The themes and sub-themes are presented in Fig 1.

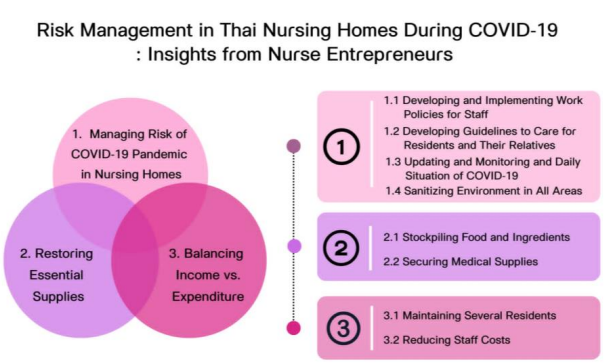

Fig. 1 The major themes and sub-themes obtained from the findings

The findings regarding the risk management in NHs during COVID-19 are presented as follows:

2.1 Managing Risk of COVID-19 Pandemic in NHs

When COVID-19 was declared a global pandemic, nursing home (NH) nurse entrepreneurs promptly recognized the heightened risk to their vulnerable residents, particularly those aged 65 years and older. Their response encompassed a series of targeted interventions, including the development of staff work policies, the establishment of prevention and protection guidelines, the dissemination of daily situation updates, and the implementation of rigorous environmental sanitation protocols. These measures were designed to safeguard both residents and staff against COVID-19 infection.

The effectiveness of these interventions varied. Policy development provided a critical organizational framework, although enforcement was inconsistent across facilities. Prevention guidelines enhanced safety compliance but required continuous reinforcement to maintain adherence. Information systems facilitated situational awareness, even amid conflicting and evolving guidance from public health authorities. Notably, NH nurse entrepreneurs demonstrated considerable adaptability in responding to unprecedented constraints. While environmental interventions effectively served as physical barriers to viral transmission, the psychological effects of isolation measures raised significant concerns regarding resident well-being. Moreover, resource limitations ultimately curtailed the full implementation and effectiveness of the protective strategies.

2.1.1 Developing and implementing work policies for staff

Safety was the priority that nurse entrepreneurs were concerned with to protect both residents and staff. The work policies were set based on the regulations from

the government such as social distancing, PPE usage, or handwashing. However, they needed to apply it to be suitable for their NH context such as the staff were asked to stay at NHs and strictly use PPE and wash hands during the COVID-19 pandemic to prevent external transmission.

"…We have been using the infectious control policy earlier since the government announced this crisis…Everybody needs to wear a mask, wash hands, and use alcohol to clean everywhere. We use gloves more than usual compared to the last three months. My staff must be screened before starting to work every day. I've tried to do everything as much as I can…" (Participant 1)

"…I built more washing sinks to make it convenient for staff to wash their hands. I also posted the steps and advantages of handwashing to encourage them to wash hands correctly and frequently…" (Participant 7)

2.1.2 Developing guidelines to care for residents and their relatives

Following the declaration of COVID-19 as a global pandemic, the government emphasized the importance of "social distancing," a directive extended to nursing homes (NHs). These measures were designed to protect not only staff but also the highly vulnerable resident population, most of whom were older adults at elevated risk of infection. To limit physical contact, NHs instituted strict visitation policies: relatives were encouraged to use video calls to maintain contact, while routine doctor visits were postponed. Health updates were provided through the nurse manager, and medication was either collected by relatives or delivered by designated staff. In cases of medical emergencies, hospital transfers were permitted. Additionally, external messengers were prohibited from entering NHs; instead, designated areas were arranged for deliveries, with packages sanitized before being brought inside. Prior to implementing these measures, nurse entrepreneurs secured agreements from residents, relatives, and staff to ensure cooperation.

"…I already informed their relatives about a visiting policy that should be avoided to minimize the risk of infection. They quite understood and collaborated well. If they want to visit, we suggest they use a video call, and we will facilitate it. For doctor visits, they must be postponed; if their medicine runs out, I will send staff or ask their relatives to pick it up, except for emergencies. Anything sent from outside needs to be sanitized before entering…" (Participant 4)

2.1.3 Updating and monitoring and daily situation of COVID-19

In any crisis, access to accurate and timely information is crucial for effective decision-making. Nurse entrepreneurs closely monitored daily government announcements to adapt their operations to evolving policies and restrictions. They also consulted the Thai Elderly Promotion and Health Care Association for specific guidelines on caring for older adults during the pandemic.

"…I watch TV every day to update the situation from the government. Sometimes I don't know what to do with my NH because there are so many limitations. Watching helps me plan. I also check information from the association for caregiving guidelines..." (Participant 2)

2.1.4 Sanitizing Environment in All areas

Beyond personal and procedural precautions, environmental disinfection was prioritized. Nurse entrepreneurs sanitized all areas using 70% alcohol, 6% hypochlorite solutions, 3% hydrogen peroxide, or detergents, applying these through ultra-low volume (ULV) sprayers every 2–4 weeks. These measures were intended to reinforce infection control policies comprehensively.

"…We use a sprayer with a medical-grade solution from a Belgian company. We spray large rooms and clean surfaces with alcohol. I asked the company many times to ensure it can kill the virus because if the spray particles are too large, it might not be effective. We also need to verify the solution concentration…" (Participant 1)

2.2 Restoring essential supplies

2.2.1 Stockpiling food and ingredients

The onset of the pandemic triggered widespread panic buying, leading to food shortages. Anticipating extended lockdowns and curfews, nurse entrepreneurs stockpiled food and essential ingredients to ensure adequate supplies for residents. Some preferred to procure fresh food daily through messengers or housekeepers to maintain quality.

"…I had to stock food, milk, and medical nutrition for tube feeding. It needed to be reserved for at least a month because we couldn't predict the situation. Preserved foods are also important in case fresh foods are contaminated…" (Participant 1)

2.2.2 Securing medical supplies

Demand for personal protective equipment (PPE) such as masks, gloves, and alcohol-based

sanitizers surged during the pandemic, causing significant shortages and dramatic price increases. While some NHs had secured supplies early, others faced escalating costs. Nurse entrepreneurs diversified suppliers, minimized use where feasible, and adopted reusable PPE options to manage costs.

"…Medical equipment became very expensive, and we used it much more than usual. I used to buy masks for 40 THB per box; now it's 500–800 THB. Alcohol went from 70 THB to 250–300 THB. Gloves and diapers also became expensive. Now I'm adapting by using fabric masks because N95 masks are hard to find…" (Participant 3)

"…I had stocked 50 boxes of masks before the crisis. But alcohol prices jumped from 40 THB to 250 THB. Even sellers from our association raised prices — it's really unacceptable…" (Participant 9)

2.3 Balancing income vs. expenditure

COVID-19 was a global pandemic, the impacts negatively affected people around the world. Even though it was a novel disease, it affected several aspects of human beings, especially health and the economy. Many businesses were temporarily closed, and the staff was left without pay. While several companies could not handle the situation and became bankrupt as well as the staff becoming immediately unemployed. For a business to survive they had to adjust, including the NHs business. Thus, NH nurse entrepreneurs needed to manage their finances by balancing both income and expenditure during the crisis.

2.3.1 Maintaining several residents

To maintain the income, nurse entrepreneurs informed the relatives about the advantages of staying at the NHs with intensive infectious control and the risks if the residents were to stay at home. If a patient returned home, it may affect the income directly because the nurse entrepreneurs will not accept a new resident as a method to prevent infection.

"…Most of our customers are middle-class families. They have to work to earn money to support the residents. But in this situation, the economy is not good, and many companies need to close. If they cannot pay and bring their parents back home. It must directly affect us if I can't receive a new customer. Anyway, I have to inform them about the risk if the older adult stays at home during this situation, so they don't want to go back home…" (Participant 10)

2.3.2 Reducing staff costs

Cost control measures included reducing staff overtime and dormitory rental expenses by requiring staff to reside inside the NH during the pandemic. While food and basic living supplies for staff were provided, this arrangement reduced overall operational costs and minimized infection risks.

"…All of my staff moved into the NH to prevent infection. This also helped eliminate dormitory rental fees and overtime costs. I provide them with food and basic supplies. There are about 20 staff, including nurses, caregivers, physiotherapists, and housekeepers. Not everyone was happy about it, but I explained that we needed to support each other to survive this crisis…" (Participant 1)

The World Health Organization's declaration of COVID-19 as a global pandemic highlighted the heightened vulnerability of older adults, particularly those residing in nursing homes (NHs). This study explored how Thai NH nurse entrepreneurs responded to the unprecedented challenges posed by the pandemic through a variety of strategic approaches.

First, nurse entrepreneurs implemented several protective measures, including establishing staff work policies, developing infection prevention guidelines, monitoring daily updates, and sanitizing environments to safeguard residents and staff. This aligns with the infection prevention and control guidelines for long-term care facilities, which emphasize preparation across eight components: NH management, staff, service protocols, environmental controls, equipment, and referral systems (Department of Health Service Support, 2024; Department of Older Persons, 2020). Nurse entrepreneurs played a pivotal role in revising and enforcing stringent infection control protocols (Maria et al., 2022). Similar findings have been reported globally, where adherence to local guidelines, such as personal protective equipment use and supervised visitations, helped NHs navigate the pandemic effectively. Collaboration with external partners was crucial, with leadership ensuring accurate information flow, policy support, and resource procurement (Vogelsmeier et al., 2024). Despite the restrictions, NHs recognized the irreplaceable value of maintaining personal contact between residents and their loved ones (Verbeek et al., 2020).

Second, shortages of food and medical supplies were acute during the pandemic. Nurse entrepreneurs prioritized food stockpiling and proactively secured medical supplies to mitigate supply chain disruptions and cost inflation. Prices of medical supplies surged 2- to 3-fold or more, emphasizing the

necessity for strategic foresight, negotiation skills, and contingency planning (Colichi et al., 2019). Literature suggests that lack of preparedness was a major challenge for healthcare facilities, particularly regarding essential supplies such as personal protective equipment and sanitation materials (Kaye et al., 2021). These findings underscore the critical need for pandemic preparedness and resource management in NH operations.

Third, NH nurse entrepreneurs faced the dual challenge of maintaining financial stability while ensuring effective infection control. Strong clinical leadership was necessary to navigate this complex landscape (Goh et al., 2021). Evidence suggests that NHs with robust care processes and outcomes tend to perform better financially (Weech-Maldonado et al., 2019). Unlike countries with government-supported long-term care systems, such as Japan or the United States, Thailand lacks comprehensive public insurance programs for NH residents. Consequently, entrepreneurs had to balance high-quality care delivery with financial viability, including minimizing costs and optimizing staffing (Kingsley & Harrington., 2022). These operational pressures are likely to contribute to long-term issues such as burnout, turnover, and staff shortages (White et al., 2021). Therefore, successful NH management during crises requires a blend of healthcare knowledge and business acumen (Raimondo, 2018).

Finally, the study sample consisted of ten female nurse entrepreneurs, with an average age of 46.9 years and predominantly holding bachelor degrees. Their NHs exhibited considerable operational diversity, with staff-to-resident ratios ranging from 1:2.5 to 1:4, and operational experience spanning 4 to 18 years (mean = 8.7 years). This diversity enriched the study's findings, allowing insights into pandemic responses across different stages of business maturity and resource allocation levels.

Conclusion

This study provides valuable insights into the experiences of nurse entrepreneurs managing NHs in Thailand during the COVID-19 pandemic. The findings underscore the necessity of integrating nursing expertise with business competencies to navigate the intertwined challenges of infection control and financial management during a global health crisis. The participants demonstrated resilience, adaptability, and strategic foresight in protecting residents, maintaining essential supplies, and sustaining business operations.

However, the study has limitations, notably the inability to conduct interviews within NHs due to COVID-19 prevention measures, which may have constrained data collection depth.

Overall, the findings highlight the critical need for nurse entrepreneurs to balance healthcare and business demands independently during public health emergencies. Future research should explore the perspectives of residents, staff, and family members to build a more comprehensive understanding of pandemic impacts on NHs. Additionally, policymakers should consider supporting NHs through financial aid, supply chain stabilization, and capacity-building initiatives to enhance the resilience and sustainability of long-term care services in future crises.

Acknowledgments

The authors gratefully acknowledge all participants for their valuable time. Moreover, we sincerely thank the CAMPUS Asia Plus Program, Kobe University, Japan, for expanding the scope of this research on risk management. Special appreciation is extended to Professor Dr. Chieko Greiner from the Graduate School of Health Sciences, Kobe University, whose expert guidance on long-term care facilities management has been invaluable to this study.

References

Aydogdu, A.L.F. (2023) Challenges faced by nurse managers during the COVID-19 pandemic: An integrative review. *Journal of Research in Nursing, 28*(1), 54–69. https://doi.org/10.1177/17449871221124968

Bonanad, C., García-Blas, S., Tarazona-Santabalbina, F., Ariza, A., Núñez, J., & Cordero, A. (2020). The effect of age on mortality in patients with COVID-19: A meta-analysis with 611,583 subjects. *Journal of the American Medical Directors Association, 21*(7), 915–918. https://doi.org/10.1016/j.jamda.2020.05.045

Colichi, R.M.B., Lima, S.G.S., Bonini, A.B.B., & Lima, S.A.M. (2019). Entrepreneurship and nursing: An integrative review. *Revista Brasileira de Enfermagem, 72* (Suppl 1), 321–330. https://doi.org/10.1590/0034-7167-2018-0498

Department of Disease Control. (2021). Coronavirus disease (COVID-19): Thailand situation. Retrieved December 20, 2023, from https://ddc.moph.go.th/viralpneumonia/eng/index.php

Department of Health Service Support. (2024). *Numbers of registered elder care services in Thailand.* Retrieved March 3, 2025, from https://esta.hss.moph.go.th/

Department of Older Persons. (2020). *Infection prevention and control guidance for long-term care facilities in the context of COVID-19*. Retrieved October 31, 2024, from http://hsscovid.com/files/GuidelineselderlyVer6.pdf

Dyer, H.A., Fallon, A., Noonan, C., Dolphin, H., O'Farrelly, C., Bourke, M.N., ... Kennelly, P.S. (2022). Managing the impact of COVID-19 in nursing homes and long-term care facilities: An update. *Journal of the American Medical Directors Association, 23*(9), 1590–1620. https://doi.org/10.1016/j.jamda.2022.06.028

Fusch, P. I., & Ness, L.R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report, 20,* 1408–1416.

Glinskaya, E., Walker, T., & Wanniarachchi, T. (2021). *Caring for Thailand's aging population.* Washington, DC: World Bank.

Goh, H.S., Tan, V., Lee, C.N., Zhang, H., & Devi, M.K. (2021). Nursing home's measures during the COVID-19 pandemic: A critical reflection. *International Journal of Environmental Research and Public Health, 19*(1), 75. https://doi.org/10.3390/ijerph19010075

Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic inquiry.* Thousand Oaks, CA: Sage.

Heiks, C., & Sabine, N. (2022). Long-term care and skilled nursing facilities. *Delaware Journal of Public Health, 8*(5), 144-149. https://doi.org/10.32481/djph.2022.12.032

Husserl, E. (2013). *Cartesian meditations: An introduction to phenomenology.* Dordrecht, Netherlands: Springer Science & Business Media.

Kaye, A.D., Okeagu, N.C., Pham, D.A., Silva, A.R., Hurley, J.J., Arron, L.B., … Cornett, M.E. (2021). The economic impact of COVID-19 pandemic on healthcare facilities and systems: International perspectives. *Best Practice & Research: Clinical Anaesthesiology, 35*(3), 293–306. https://doi.org/10.1016/j.bpa.2020.11.009

Kingsley, D.E., & Harrington, C. (2022). Financial and quality metrics of a large, publicly traded U.S. nursing home chain in the age of COVID-19. *International Journal of Health Services: Planning, Administration, Evaluation, 52*(2), 212–224. https://doi.org/10.1177/00207314221077649

Li, F., Li, L., Huang. W., Zeng, W., Long. W., Peng, J., ... Chen, X. (2024). Assessing the long-term care (LTC) service needs of older adults based on time-driven activity-based costing (TDABC)-a cross-sectional survey in central China. *BMC Nursing, 23*(1),815. https://doi.org/10.1186/s12912-024-02464-0

Maria, G. R. S, Lauren, E., Kathleen, B. (2022). COVID-19 and nurse entrepreneurship. *Annals of Nursing and Primary Care,3*(2), 1-2

Ngamprasertchai, T., Vanaporn, M., Muangnoicharoen, S., Pan-ngum, W., Ruenroengbun, N., Piroonamornpun, P., Ponam, T., … Thamlikitkul, V. (2022). Mortality in Thai nursing homes based on antimicrobial-resistant enterobacterales carriage and COVID-19 lockdown timing: A prospective cohort study. *Antibiotics, 11*(6), 762. https://doi.org/10.3390/antibiotics1106076215

Ngernthaisong, C., Aungsuroch, Y., & Oumtanee, A., (2024). Nurses' perceptions of outcomes of quality of care in Thai nursing homes: A qualitative study. *Pacific Rim International Journal of Nursing Research, 28*(3), 509–524. https://doi.org/10.60099/prijnr.2024.267065

Ngernthaisong, C., & Oumtanee, A. (2017). Running a nursing home business: risk, opportunity or challenge for nurse entrepreneurs. *Journal of Health Research, 31*(3),199-208. https://doi.org/10.14456/jhr.2017.25

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N., & Hoagwood, K. (2015). Purposeful samplingfor qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health, 42*(5), 533-544. https://doi.org/10.1007/s10488-013-0528-y

Polit, D.F., & Beck, C.T. (2017). *Nursing research: Generating and assessing evidence for nursing practice* (10th ed.). Philadelphia, PA: Wolters Kluwer.

Raimondo, C. (2018). *Risk management in healthcare organizations.* Italy: Self-published.

Royal Thai Government Gazette. (2020). *Ministerial regulation of healthcare services for older adults and dependent persons.* Retrieved December 20, 2023, from https://download.asa.or.th/03media/04law/swfa/mr63.pdf

Schneider, P., Abt, M., Cohen, C., Marmier, N., & Ortoleva, B.C. (2023). The impact of protective measures against COVID-19 on the wellbeing of residents in nursing homes and their relatives: A rapid review. *BMC Geriatrics, 23,* 649. https://doi.org/10.1186/s12877-023-04300-7

Siriwan, L. (2024). A guideline for local elderly policy development in Thailand. *Asia Social Issues, 17*(6), e264840. https://doi.org/10.48048/asi.2024.264840

Srithumsuk, W., Prachusilpa, G., Thummapol, O., & Kasemsuk, W. (2021). A study of home healthcare nursing outcomes quality indicators for older people in Thailand using Delphi technique. *Home Healthcare Now, 39*(3), 154–159. https://doi.org/10.1097/NHH.0000000000000956

United Nations Development Programme. (2021). COVID-19: *Socio-economic impacts*. Retrieved December 20, 2023, from https://www.undp.org/coronavirus/socio-economic-impact-covid-19

Verbeek, H., Gerritsen, D.L., Backhaus, R., de Boer, B.S., Koopmans, R.T.C.M., & Hamers, J.P.H. (2020). Allowing visitors back in the nursing home during the COVID-19 crisis: A Dutch national study into first experiences and impact on well-being. *Journal of the American Medical Directors Association, 21*(7), 900–904. https://doi.org/10.1016/j.jamda.2020.06.020

Vogelsmeier, A., Popejoy, L.L., Johnson, H.A., Miller, S., Young, L., Thompson, A.R., ... Mehr, R.D. (2024). Nursing home leader response during COVID-19: A qualitative descriptive study about use of external resources during the pandemic. *BMC Health Services Research, 24,* 1236. https://doi.org/10.1186/s12913-024-11718-1

Weech-Maldonado, R., Pradhan, R., & Dayama, N. (2019). Nursing home quality and financial performance: Is there a business case for quality? INQUIRY: *The Journal of Health Care Organization, Provision, and Financing, 56,* 1–10. https://doi.org/10.1177/0046958018825191

White, E.M., Wetle, T.F., Reddy, A., & Baier, R.R. (2021). Front-line nursing home staff experiences during the covid-19 pandemic. *Journal of the American Medical Directors Association, 22*(1), 199-203. https://doi.org/10.1016/j.jamda.2020.11.022

Wirihana, L., Welch, A., Williamson, M., Christensen, M., Bakon, S., & Craft, J. (2018). Using Colaizzi's method of data analysis to explore the experiences of nurse academics teaching on satellite campuses. *Nurse Researcher, 25*(4), 30–34. https://doi.org/10.7748/nr.2018.e1516

World Health Organization. (2025). *WHO coronavirus (COVID-19) dashboard.* Retrieved March 2, 2025, from https://data.who.int/dashboards/covid19/deaths